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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/044,466	01/10/2002	Dennis J. Brunner	89190.079101/DP-305547	9887

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Delphi Technologies, Inc.  
P.O. Box 5052  
Mail Code 480414420  
Troy, MI 48007

EXAMINER

FERGUSON, MICHAEL P

ART UNIT	PAPER NUMBER
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3679

DATE MAILED: 05/03/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/044,466

Applicant(s)

BRUNNER ET AL.

Examiner

Michael P. Ferguson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 12 April 2004.  
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-9 and 13 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-9 and 13 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☒ The drawing(s) filed on 10 January 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on April 12, 2004 has been entered.

### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-9 are rejected under 35 U.S.C. 102(b) as being anticipated by Morelli et al. (US 5,688,070).

As to claim 1, Morelli et al. discloses an apparatus for securing a hub to a shaft, comprising:

a) a cylindrical shaft **144** having a longitudinal keyway formed in an outer surface thereof, the keyway having a bottom portion and two side walls;

b) a hub **164** having a cylindrical axial bore defining a wall in the hub and being disposable on the shaft to define a maximum distance from the keyway bottom portion to the bore wall, the wall being cylindrical about the entire surface of the axial bore

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(having a cylindrical keyway; the wall relating to the form of a cylinder along the entire surface of the axial bore); and

c) a tapered locking key **56,171** (taper shown in Figure 4) for insertion into the keyway between the keyway bottom portion and the bore wall, the key having a pre-insertion maximum height greater than the maximum distance such that the hub is deformed by the insertion, whereby the hub is rotationally and axially secured onto the shaft (Figures 4, 6a, 6c and 6f, column 1 lines 12-36, column 4 lines 9-39).

As to claim 2, Morelli et al. discloses an apparatus wherein a hub **164** is formed of a deformable polymer having a first hardness (column 4 lines 9-39).

As to claim 3, Morelli et al. discloses an apparatus wherein a key **171** is formed of metal (column 4 lines 9-39).

As to claim 4, Morelli et al. discloses an apparatus wherein a key **171** has a second hardness greater than a first hardness (column 4 lines 9-39).

As to claim 5, Morelli et al. discloses an apparatus wherein a locking key **171** is an end key in a chain of connected keys (inherently, through the manufacturing process, whether extrusion or casting, locking key **171** is severed from a mass of raw material from which a chain of keys is produced), the end key being severable from the chain (during the manufacturing process).

Applicant is reminded that process limitations are given no patentable weight in product claims. See MPEP § 2113. "The patentability of a product does not depend on its method of production. " In re Thorpe, 777 F.2d 695,698,USPQ 964,966 (Fed.Cir.1985).

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As to claim 6, Morelli et al. discloses an apparatus wherein a shaft **144** is a throttle shaft (shaft **144** controls the speed at which other gears or members which are meshed with hub **164** rotate; thus shaft **144** defines a throttle shaft) and a hub **164** is a portion of a shaft rotary position sensor (other gears or members rotate in response to the rotary position of hub **164**; thus hub **164** defines a rotary position sensor) (Figures 6a, 6c and 6f).

As to claim 7, Morelli et al. discloses a method for securing a hub **164** having a cylindrical axial bore defined by a bore wall onto a cylindrical shaft **144**, the bore wall being cylindrical about the entire surface of the axial bore (having a cylindrical keyway; the bore wall relating to the form of a cylinder along the entire surface of the axial bore), the method comprising the steps of:

- a) providing a longitudinal keyway in the shaft, the keyway having a bottom portion and two side walls;
- b) disposing the entirely cylindrical axial bore of the hub onto the shaft to define a maximum distance between the keyway bottom portion and the bore wall;
- c) providing a wedging means **171**; and
- d) inserting the wedging means into the keyway between the keyway bottom portion and the bore wall (Figures 4, 6a, 6c and 6f, column 1 lines 12-36, column 4 lines 9-39).

As to claim 8, Morelli et al. discloses a method wherein a wedging means **171** is a locking key having a maximum height greater than a maximum distance (Figures 4, 6a, 6c and 6f).

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As to claim 9, Morelli et al. discloses a method further comprising the step of advancing a locking key **171** into a keyway until the point of a maximum height is axially centered within a hub bore (Figures 4, 6a, 6c and 6f).

3. Claims 7-9 are rejected under 35 U.S.C. 102(b) as being anticipated by Kindelmann et al. (US 1,866,112).

As to claim 7, Kindelmann et al. discloses a method for securing a hub **10** having a cylindrical axial bore defined by a bore wall onto a cylindrical shaft **12**, the bore wall being cylindrical about the entire surface of the axial bore, the method comprising the steps of:

a) providing a longitudinal keyway in the shaft, the keyway having a bottom portion and two side walls;

b) disposing the entirely cylindrical axial bore of the hub onto the shaft to define a maximum distance between the keyway bottom portion and the bore wall;

c) providing a wedging means **17**; and

d) inserting the wedging means into the keyway between the keyway bottom portion and the bore wall (Figures 1-4).

As to claim 8, Kindelmann et al. discloses a method wherein a wedging means **17** is a locking key having a maximum height greater than a maximum distance (Figures 1 and 2).

As to claim 9, Kindelmann et al. discloses a method further comprising the step of advancing a locking key **17** into a keyway until the point of a maximum height is axially centered within a hub bore (Figures 1 and 2).

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4. Claim 13 is rejected under 35 U.S.C. 102(b) as being anticipated by Preston, Sr. (US 1,560,399).

As to claim 13, Preston, Sr. discloses an apparatus for securing a hub to a shaft, comprising:

- a) a shaft **22** having an entirely cylindrical outer surface;
- b) a hub **20** having an axial bore defining a wall in the hub and having a longitudinal keyway formed in an inner surface thereof, the keyway having a bottom portion, the hub being disposable on the shaft to define a maximum distance from the keyway bottom portion to the outer surface; and
- c) a longitudinally tapered (having a tapered lengthwise edge) locking key **10** for insertion into the keyway between the keyway bottom portion and the shaft surface, the key having a pre-insertion maximum height greater than the maximum distance such that the shaft is deformed by the insertion, whereby the hub is rotationally and axially secured onto the shaft (Figures 3-9).

### ***Response to Arguments***

Applicant's arguments with respect to claims 1-9 and 13 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael P. Ferguson whose telephone number is (703)308-8591. The examiner can normally be reached on M-F (7:30-4:30).

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel P. Stodola can be reached on (703)308-2686. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MPF  
4/27/04

A handwritten signature in black ink that reads "Daniel P. Stodola". The signature is written in a cursive style with a large initial "D".

DANIEL P. STODOLA  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 3600